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REMARKS**I. Introduction**

Claims 1-15 are pending in the above application.

Claims 1-15 stand rejected under 35 U.S.C. § 103.

Claims 1, 8 and 15 are independent claims.

II. Prior Art Rejections

Claims 1-15 stand rejected under 35 U.S.C. § 103 as being unpatentable over Ennis Jr. et al. (U.S. Pat. No. 5,867,483) (hereafter "Ennis Jr.") in view of MacMullen (U.S. Pat. No. 6,484,124). The rejection is respectfully traversed.

A. The Combination Does Not Meet All Of The Claim Limitations

The combination of Ennis Jr. and MacMullen, taken alone or in combination, does not disclose or suggest all of the claimed limitations. Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. *Ecolochem Inc. v. Southern California Edison Co.*, 227 F.3d 1361, 56 U.S.P.Q.2d (BNA) 1065 (Fed. Cir. 2000); *In re Dembiczak*, 175 F.3d 994, 999, 50 U.S.P.Q.2D (BNA) 1614, 1617 (Fed. Cir. 1999); *In re Jones*, 958 F.2d 347, 21 U.S.P.Q.2d 1941 (Fed. Cir. 1992); and *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988). See also MPEP 2143.01.

Neither Ennis Jr. nor MacMullen, taken alone or in combination, disclose or suggest to associate a plurality of bandwidths simultaneously to the user for each test point, including information representative of the signal to noise ratio (SNR) at the test point for each bandwidth. Ennis Jr. merely discloses a method and apparatus for measuring throughput in a packetized data

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network, i.e. measuring the volume of data on the network. Ennis Jr., abs. Ennis Jr. discloses to measure the volume of data on a channel or on a particular device in the network, a.k.a. "the amount of bandwidth utilization for the access channel or individual circuit." Ennis Jr.; col. 10: 23-26. Ennis Jr. discloses to determine the utilization of the channel per unit of time, e.g. 15 minute increments, and provides a display indicating a channel use against time. Ennis Jr.; Fig. 11; col. 4: 45 through col. 5: 12; col. 10: 16 through col. 11: 12. At best, Ennis only considers the bandwidth of a channel ("the access channel (i.e., channel connecting a site to a communications system", e.g. typically a particular frequency) and monitors that channel's bandwidth over time. Ennis Jr.; col. 1: 40-66; col. 3: 3-8. Ennis does not appear to disclose or suggest to simultaneously display a signal to noise ratio of a plurality of different bandwidths of the total communication system.

Contrary to the assertions in the final Office action, MacMullen also does not cure the deficiencies of Ennis Jr. MacMullen is concerned with microwave systems, particularly with determining the SNR of particular components in microwave based radar systems for tracking airborne objects. MacMullen, col. 1: 32 through col. 2: 5. MacMullen also does not disclose or suggest to simultaneously display a signal to noise ratio of a plurality of different bandwidths of the total communication system. MacMullen does not even appear to relate to communication systems at all, let alone a broadband communications system. Note that MacMullen is dealing with microwave radiation frequencies (e.g. 2-8 GHz (MacMullen; Col. 8: 54-55) which appear to be several orders of magnitude higher than the disclosed typical broadband communications systems (e.g. 5-42 MHz (Application, pg. 4: 9-10).

Moreover, the final Office action appears to acknowledge that MacMullen also does not disclose or suggest to simultaneously display a signal to noise ratio of a plurality of different

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bandwidths of the total communication system. Particularly, the final Office action attempts to justify the rejection by the following explanation:

Note though that MacMullen (sic) does in fact show information of signal to noise ratio at the given test point for each bandwidth in the aforecited passages. MacMullen (sic) may not show the graphical user interface displaying all of the information simultaneously, but does show presenting this information to the user. The obviousness lies in combining this feature into the system of Ennis et al. which then would simultaneously display all of the information, meaning thus for each of the test points for each bandwidth. (This is all that is combined; i.e. there is not a picking and choosing of elements from several references in an improper or contrived way.) Now, the motivation to do this is to allow effective monitoring of performance of a communication device. Final Office action, pg. 6.

In short, the theory in the final Office action appears to be that MacMullen discloses to provide SNR measurements for a plurality of bandwidths, and if those SNR measurements were provided to Ennis Jr., then Ennis Jr. would appropriately configure the information to display those measurements simultaneously. Neither reference discloses or suggests to display SNR measurements of a plurality of bandwidth simultaneously. The conclusion in the final Office action clearly relies on an assumption of a synergistic effect in combining the disclosure of MacMullen with Ennis Jr., to achieve something which is greater than the combination of their parts. However, reliance on a synergistic effect from combining two references has long been held to be an improper determination for obviousness, as stated in *Stratoflex, Inc. v. Aero-quip Corp.*, 713 F.2d 1530, 1540, 218 USPQ 871, 880 (Fed. Cir. 1983)

A requirement for "synergism" or a "synergistic effect" is nowhere found in the statute, 35 U.S.C. When present, for example in a chemical case, synergism may point toward nonobviousness, but its absence has no place in evaluating the evidence on obviousness. The more objective findings suggested in *Graham*, supra, are drawn from the language of the statute and are fully adequate guides for evaluating the evidence relating to compliance with 35 U.S.C. § 103. *Bowser Inc. v. United States*, 388 F. 2d 346, 156 USPQ 406 (Ct. Cl. 1967).

See also MPEP 2141, pg. 2100-120. Accordingly, the logical leap taken in the final Office action is impermissible to support an obviousness rejection.

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As neither Ennis Jr. nor MacMullen disclose or suggest to simultaneously display a signal to noise ratio of a plurality of different bandwidths of the total communication system, the combination of Ennis Jr. and MacMullen does not disclose such. Since every limitation of independent claims 1, 8, and 15 are not met by the combination of Ennis Jr. and MacMullen, claims 1-15 are not rendered unpatentable by the combination.

B. MacMullen Is Not Analogous Art

Prior art for obviousness under 35 USC § 103 must be analogous art. *In re Oetiker*, 977 F.2d 1443, 1446, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992); *In re Clay*, 966 F.2d 656, 23 USPQ2d 1058 (CAFC 1992). The court in *In re Clay* defined analogous art as: 1) art which is in the *same field of endeavor*, or 2) art which is *reasonably pertinent to the particular problem which the inventor is involved*. *Id.* Where reasonable pertinence to the inventors particular problem is shown by whether the prior art has the *same purpose* and is faced with the *same problem* solved by the inventor. *Id.*

MacMullen is clearly not analogous art to the present invention. MacMullen is directed toward a system for measurement of selected performance characteristics of microwave components, which are stated to be used for such things as radar. Col. 1: 32-51. Among the performance characteristics, MacMullen discloses to determine the signal to noise ratio (SNR) of the microwave components. Clearly MacMullen is not remotely in the same field of endeavor, i.e. testing a broadband communication signal.

MacMullen is also clearly not reasonably pertinent to the particular problem which the inventors are involved. MacMullen explains that the problem solved therein is uniquely particular to microwave devices, stating: "there has long been a need to improve the accuracy,

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reliability, repeatability, and correlation of signal-to-noise ('SNR') measurements of **microwave power transmitter and receiver components.**" Col. 1: 38-41, bold added for emphasis. The present application is concerned with measurement of noise in a broadband communication signal which may come from a variety of sources, including components operating normally and devices which are not even part of the communication network. MacMullen is not concerned with a broadband communication signal and the present invention is not concerned with the problem addressed in MacMullen – determining noise created by particular components nor the difficulty in measuring noise in microwaves or microwave electronics. Clearly, one of skill in the art of broadband communications would not look to an improved technique of measuring noise in microwave power transmitter and receiver components, which apparently has unique problems with noise measurements (MacMullen, col. 1: 32 through col. 2: 40) and is concerned with a high powered signal (e.g. pulsed radar) which is several orders of magnitude higher in frequency than a typical broadband communication. Finally, MacMullen lauds the fact that "one of the significant benefits of the present invention is to employ a special – rather than general – purpose instrument, ... to achieve a high degree of accuracy." MacMullen; col. 14: 17-21. Hence, it is not even clear if the approach in MacMullen could even be used with anything other than microwaves.

Accordingly, as MacMullen is not in the same field of endeavor nor remotely pertinent to the problem solved by the present invention, MacMullen is not analogous art to the inventions recited in the claims of the application. As such, the combination of MacMullen with Ennis Jr. is improper and should be withdrawn.

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C. The Combination Is Clearly Based On Impermissible Hindsight

Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). See also MPEP 2143.01. It should be recognized that the fact that the prior art could be modified so as to result in the combination defined by the claims at bar would not have made the modification obvious unless the prior art suggests the desirability of the modification. *In re Deminski*, 796 F.2d 436, 230 USPQ 313 (Fed. Cir. 1986). Recognizing, after the fact, that such a modification would provide an improvement or advantage, without suggestion thereof by the prior art, rather than dictating a conclusion of obviousness, is an indication of improper application of hindsight considerations. Simplicity and hindsight are not proper criteria for resolving obviousness. *In re Warner*, 379 F.2d 1011, 154, USPQ 173 (CCPA 1967).

The system in MacMullen is not remotely concerned with a broadband communication. MacMullen clearly states that a very specific, and apparently difficult, problem is addressed by its disclosure – measurement of SNR in a “microwave power transmitter and receiver components.” Col. 1: 33-44. There is clearly no suggestion in MacMullen to measure the noise of a communication signal. MacMullen does not even appear to disclose a communication signal being measured, and MacMullen is concerned with measuring noise of particular components, which happen to be microwave components, rather than a communication signal. The that effect of noise generated in a particular component would have on a broadband communication signal would be uncertain at best at least because the noise in a communication

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signal would likely be affected by a variety of factors, e.g. a degree of ingress, shielding of the communication signal, other sources of noise, etc. In short, there clearly is no suggestion in MacMullen to be used to modify a broadband communications system.

Accordingly, the rejection bears all the classic hallmarks of an improper hindsight analysis, using Applicant's disclosure as a road map to follow, i.e. the rejection appears to be based on a recognition after the fact of reviewing Applicant's disclosure of the advantages of the invention. Such reliance on Applicant's disclosure is clearly a hallmark of the use of hindsight in the rejection. Accordingly, the combination of MacMullen with Ennis Jr. to attempt to reach the limitations of claims 1-15 is improper.

III. Conclusion

Having fully responded to the Office action, the application is believed to be in condition for allowance. Should any issues arise that prevent early allowance of the above application, the examiner is invited to contact the undersigned to resolve such issues.

To the extent an extension of time is needed for consideration of this response, Applicant hereby request such extension and, the Commissioner is hereby authorized to charge deposit account number 502117 for any fees associated therewith.

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Respectfully submitted,

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